*Do it!*     **A-1:**    **Creating a PivotTable**

| Here's how | Here's why |
|---|---|
| 1   Open PivotTable | (From the current unit folder.) The Raw Data worksheet contains the sales details for several products. You'll use the data in this worksheet to create a PivotTable. |
| 2   Save the workbook as **My PivotTable** | In the current unit folder. |
| 3   Select any cell in the range A5:D105 | You'll create a PivotTable based on this range. If you select a cell within the range of the source data, you don't have to specify the range later. |
| 4   Activate the Insert tab | |
| 5   In the Tables group, click the PivotTable button |  |
| | To open the Create PivotTable dialog box. It prompts you to select the location of the data you want to analyze. You can use an external data source or an Excel worksheet. The default is the range it determines automatically from the selected cell. |
| | In this dialog box, you also specify the location of the PivotTable report. You can create the PivotTable in a new or existing worksheet. The default selection is New worksheet. |
|     Click **OK** | A new worksheet, Sheet1, is added to the workbook. This worksheet displays the layout of the PivotTable; the PivotTable Field List task pane appears; and the PivotTable Tools \| Options and Design tabs appear on the Ribbon. |
| 6   Edit the Sheet1 tab name to read **PivotTable** | Double-click the name, type the new one, and press Enter. |
| 7   Update the workbook | |

⚠ *Ensure that students select only one cell.*

⚠ *Make sure students click the top half of the button, not the down-arrow in the bottom half.*

*Tell students that if they select a cell outside the layout area, then the PivotTable layout, the PivotTable Tools, and the PivotTable Field List task pane will not be available.*

## Add fields

You can add fields to a PivotTable to specify the data you want to display. The fields of the source data appear in the PivotTable Field List task pane.
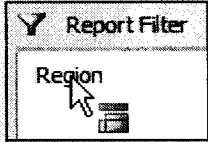
To add fields, drag a relevant field from the top of the PivotTable Field List to one of the four areas at the bottom of the task pane. You can add more than one field to an area, and you don't need to add all fields to the table. To display data and not just headings, you need to place at least one field in the $\Sigma$ Values area.

After the fields are in place, you can filter the information that appears in the table by selecting options from the Filter columns, Filter rows, or Report Filter lists. For example, you can show all data values, or restrict the PivotTable to summarizing only a couple of values.

*Do it!*

## A-2:   Adding fields to a PivotTable

| Here's how | Here's why |
| --- | --- |
| 1 Verify that the PivotTable sheet is active | You'll add fields in the PivotTable layout. |
| Observe the PivotTable Field List task pane | It displays the column headings of the source data in the PivotTable worksheet. |
| 2 Point to **Region** | The pointer turns into a four-headed arrow. You'll use Region as a report filter. |
| Drag **Region** to Report Filter, as shown |  |
| | (In the task pane.) In the worksheet, Region appears in cell A1 with a drop-down arrow. |
| 3 Drag **Quarter** to Row Labels | To add Quarter as a row field in the PivotTable. |
| 4 Drag **Product** to Column Labels | To add Product as a column field. |
| 5 Drag **Sales** to $\Sigma$ Values | To add Sales as the Values item. The PivotTable shows the sum of the quarterly sales for several products. You can change the view by changing the selections in the Filter Column, Filter Rows, and Region lists. |

| | |
|---|---|
| 6  In the worksheet, click as shown | **Column Labels** ▼ |
| | **Anise Seeds**          Bas |
| |                        138662 |
| |                        149449 |
| | To display a drop-down menu that includes a Product list. |
| Clear **Basil Leaf**, **Cassia**, and **Cloves** | To specify that the only products shown will be Anise Seeds and Chives. |
| Click **OK** | The worksheet now shows the sales figures for only Anise Seeds and Chives. |
| 7  Click as shown | |

| A | B |
|---|---|
| Region | (All)          ▼ |
| | |

To display the Region list.

| | |
|---|---|
| From the Region list, select **Central** | To specify that the view will include the sales of Anise Seeds and Chives in the Central region only. |
| Click **OK** | To close the list. The PivotTable displays the sales of Anise Seeds and Chives in the Central region. |
| 8  In the Filter Columns list, select **Clear Filter from "Product"** | To display data for all of the products. |
| Display data for all of the products for all regions | In the Region list, select (All). |
| 9  Update the workbook | |

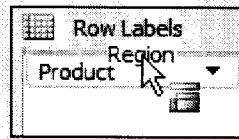## B-1:   Moving fields

| Here's how | Here's why |
|---|---|
| 1  Observe the PivotTable | It shows the quarterly sales of several products. You'll move the fields to show the data in a different way. |
| 2  In the PivotTable Field List task pane, drag **Product** below Quarter | The list of products appears beneath each quarter name in the PivotTable. |
| 3  Drag **Quarter** to Column Labels | (In the task pane.) Each quarter appears in a column in the PivotTable. |
| | You'll change Region from a report filter to a row label. |
| 4  Drag **Region** above Product, as shown |  |
| | To change Region from a report filter to a row label, making the list of products appear indented beneath each region name in the PivotTable. |
| | The order of the fields in the Row Labels list affects the structure of the PivotTable. |
| 5  Drag **Region** below Product | |
| 6  Observe the PivotTable | The regions and products switch hierarchical order in the spreadsheet, with regions now appearing indented beneath products, as shown in Exhibit 4-2. |
| 7  Update the workbook | |

*Ensure that students see the line above Product, not below it, before releasing the mouse button.*

## B-2:   Hiding and showing details

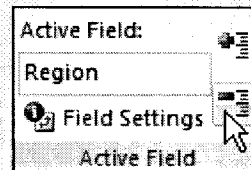| Here's how | Here's why |
|---|---|
| 1  In the PivotTable Field List pane, under Row Labels, drag **Region** above Product | |
|    Select A5:F34 | You'll hide the sales details for products and show only the total sales for each region. |
| 2  On the Ribbon, activate the PivotTable Tools \| Options tab | If necessary. |
| 3  In the Active Field group, click as shown | |



To hide the product sales details.

   Deselect the range

*The order of the regions may differ for students.*

| Sum of Sales | Column Labels ▾ | | | | |
|---|---|---|---|---|---|
| Row Labels ▾ | Qtr1 | Qtr2 | Qtr3 | Qtr4 | Grand Total |
| ⊞ Central | 123443 | 141209 | 139751 | 134895 | 539298 |
| ⊞ East | 149506 | 151044 | 154530 | 160748 | 615828 |
| ⊞ North | 168402 | 171468 | 169938 | 162776 | 672584 |
| ⊞ South | 156152 | 161980 | 165738 | 166260 | 650130 |
| ⊞ West | 183842 | 191342 | 200168 | 201285 | 776637 |
| Grand Total | 781345 | 817043 | 830125 | 825964 | 3254477 |

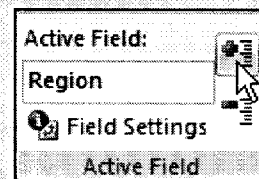The worksheet shows only a summary of the sales details for each region.

| 4  Click as shown | |
|---|---|
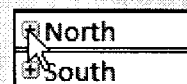


To reveal the product details for the North region. Next, you'll show all of the details for all regions.

5  Select A5:F14

| 6  On the Options tab, in the Active Field group, click as shown | |
|---|---|



To show the regional sales details for each product.

7  Update the workbook

## Refresh data

You cannot directly change the data in a PivotTable because it's based on source data.

To change data in a PivotTable, you must first change the source data and then refresh the PivotTable to reflect the latest changes. You can refresh the PivotTable by clicking the Refresh button in the Data group on the Options tab.

### B-3:  Refreshing the data in a PivotTable

| Here's how | Here's why |
|---|---|
| 1  Select B18 | It shows the value 29269. |
| Enter **30000** | **Microsoft Excel** ⚠ Cannot change this part of a PivotTable report.  [ OK ]  When you try to enter the first character, a message box appears with a warning that you can't change the value in a PivotTable. |
| Click **OK** | To close the message box. |
| 2  Activate the Raw Data sheet | This contains the source data for the PivotTable. To change the data in the PivotTable, you have to change the values in the worksheet. |
| 3  Select D46 | The cell shows the value $29,269. You'll change this value and then view the result in the PivotTable. |
| Edit D46 to read **30000** | This cell is the only contributor to the value of B6 in the PivotTable. |
| 4  Activate the PivotTable sheet | Notice that B18 still shows the old value. |
| 5  Activate the Options tab | If necessary. |
| 6  In the Data group, click the Refresh button | 🔄 Refresh ▾  (Click the icon in the top half of the button.) To update the PivotTable with the latest data. B18 now shows the new value. |
| 7  Update the workbook | |

*Do it!*

## C-1: Formatting by using a Pivot style

| Here's how | Here's why |
|---|---|
| 1 Activate the Design tab | Under PivotTable Tools, on the Ribbon. |
| 2 In the PivotTable Styles group, click as shown | <br><br>To open the PivotTable Styles gallery. |
| 3 Under Medium, click as shown | <br><br>To apply Pivot Style Medium 2 to the PivotTable. The PivotTable appears as shown in Exhibit 4-3. |
| 4 Update the workbook | |
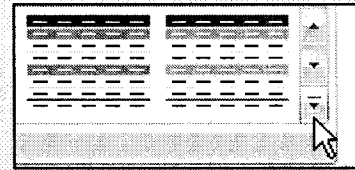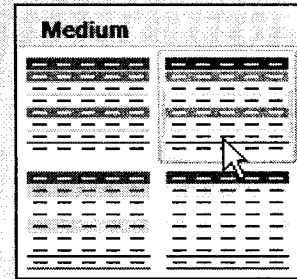
*Do it!*

## C-2:   Changing field settings

| Here's how | Here's why |
|---|---|
| 1 Select B18 | (If necessary.) This cell is in the data area. You'll apply a number format to the data items. |
| 2 Activate the Options tab | |
| 3 In the Active Field group, click **Field Settings** | To open the Value Field Settings dialog box, shown in Exhibit 4-4. |
| 4 Click **Number Format** | To open the Format Cells dialog box. |
| From the Category list, select **Number** | |
| Check **Use 1000 Separator (,)** | To display a comma after the thousands place in the number. |
| 5 From the Category list, select **Currency** | To display the formatting options under Currency. The $ option is selected in the Symbol list. You'll add this prefix symbol to the sales values. |
| Edit the Decimal places box to read **0** | To specify that currency values should be displayed as whole-dollar amounts. |
| 6 Click **OK** | To close the Format Cells dialog box. |
| Click **OK** | To close the Value Field Settings dialog box and apply the formatting to all Sales field values (not just the selected cell). The values are now formatted with commas and the $ symbol. |
| 7 Update the workbook | |

## D-1:    Creating a PivotChart

| Here's how | Here's why |
|---|---|
| 1  Click anywhere within the PivotTable | (If necessary.) To indicate which data to use for the PivotChart. |
| 2  Activate the Options tab | If necessary. |
| In the Tools group, click **PivotChart** | To open the Insert Chart dialog box. You'll create the default Column chart. |
| Click **OK** | To create a PivotChart in a floating box on this sheet. The PivotChart Filter Pane appears, showing the active fields on the PivotChart. The chart's x-axis displays the Row Labels fields; the legend displays the Column labels fields; and the bars represents the data values. You'll change the PivotTable and chart to show only the total sales for each region. |
| 3  In the PivotTable Field List pane, drag **Product** to Report Filter | To make Product a report filter. You can now sort and filter data in the PivotChart by using Product. |
| Observe the PivotChart | The total sales for the five regions appear in columns, and each column is divided into quarters. You can use the Product, Region, and Quarter lists to change the data represented by the PivotChart. |
| Resize and move the chart so it no longer overlaps the table | (If necessary.) Drag the chart box's edges and corners as necessary. |
| 4  From the Product list, select **Basil Leaf** | The Product list is located in B1. |
| Click **OK** | The PivotChart displays the total sales of only Basil Leaf for all regions. |
| 5  In the Column Labels list, clear all of the options except Qtr1 | |
| Click **OK** | The chart displays the total sales of Basil Leaf in the first quarter for all regions. |
| 6  Update and close the workbook | |

*Tell students that another approach would be to return to the Raw Data sheet, click in the data, display the PivotTable menu (in the Tables group on the Insert tab), and choose PivotChart. This, however, would generate a new blank PivotTable along with the PivotChart.*

*If necessary, tell students to drag the PivotChart Filter Pane to the right to dock it next to the PivotTable Field List pane.*

*If you have time, ask students to experiment with the PivotChart.*